Vedic Science, International Multidisciplinary Peer Reviewed Research Journal
Vol. 27, Issue Oct.- Dec. 2025, PP. 22-33
ISSN No. 0975-0312
https://www.vedicscience.net/vedic-science-quarterly-international-journal

Gravity and Inertia in the Celestial Plenum: A Re-evaluation of Solar System Mechanics via Quantum Foam and Planetary Gearing

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Abstract

The prevailing cosmological paradigm, anchored in the Newtonian vacuum, increasingly relies on theoretical placeholders such as Dark Matter to resolve observational anomalies. This paper proposes a return to the Cartesian Plenum, re-contextualized through modern Superfluid Vacuum Theory (SVT) and Quantum Foam dynamics. By analysing the Solar System as a vortex embedded within a galactic superfluid rather than an isolated clockwork in a void, kinematic paradoxes including the retrograde rotation of Venus and the angular momentum distribution of Jupiter can be resolved. Furthermore, this study integrates the historical ontology of aether physics—from the Vaiśeṣika Sūtras of Ṛṣi Kaṇāda to the etymological roots of 'massa' and 'gravitas'—to propose that Gravity and Inertia are not fundamental forces, but manifestations of fluid Adhesion and Cohesion within a quantum medium.

Keywords: Gravity, Solar System, Inertia, Planet

1. Introduction: The Ontological Crisis of the Void

For over three centuries, physics has operated on the Newtonian postulate of the vacuum—a vast emptiness where isolated masses interact via instantaneous forces. While mathematically functional, this model obscures the physical mechanism of interaction. Isaac Newton himself famously expressed discomfort with action-at-a-distance, describing gravity as a phenomenon he could calculate but not explain mechanically[1].

The resolution lies in rejecting the void in favor of a Plenum—a universe filled with Quantum Foam or a Superfluid Vacuum (SVT). In this hydrodynamic framework, space is a substance with density and viscosity. Celestial bodies do not fall through nothingness; they float in a density-dependent medium. This shift necessitates a re-evaluation of mass, time, and motion, aligning modern fluid dynamics with the intuitive physics of the ancients, specifically the Cartesian vortex tourbillons model and the atomic mechanics of the Vaiśeṣika Sūtras.

The evolution of celestial mechanics is characterized by a profound tension between the tangible mechanics of contact action and the abstract utility of action-at-a-distance. For centuries, the concept of "gravity" was viewed by many natural philosophers not as a fundamental force, but as an "empty name" used to describe phenomena that lacked a visible

mechanical cause. This scepticism was rooted in the transition from the Cartesian *plenum*—a universe entirely filled with matter where motion could only be transmitted by direct contact—to the Newtonian vacuum, where forces apparently acted instantaneously across vast distances without a mediating agent.

To understand the modern dynamical architecture of the Solar System—specifically the relationships between angular momentum, radial distance, and the anomalous rotations of Venus and Uranus—one must first reconstruct the intellectual landscape that preceded Newton. René Descartes' *Principia Philosophiae* (1644) proposed that the universe was a plenum filled with "subtle matter" or aether, organized into vast vortices (tourbillons).[1] In this model, the Sun was the center of a massive, swirling vortex, and the planets were merely bodies suspended within this fluid, carried around like leaves in a whirlpool. Gravity, in the Cartesian view, was a form of buoyancy: the rapid rotation of the vortex pushed lighter aethereal matter outward, creating an inward pressure that forced heavier bodies (planets, stones) toward the center.[1] This provided a mechanically intuitive explanation for planetary motion that required no "occult" forces acting across empty space.

Isaac Newton's publication of the *Principia Mathematica* in 1687 dismantled this vortex theory mathematically, yet it left a metaphysical void. Newton demonstrated that for a fluid vortex to sustain itself, the periodic times of the orbiting bodies would depend strictly on the fluid's density profile. He proved that a vortex rotating as a rigid body would result in constant orbital periods regardless of distance, while an irrotational (free) vortex would yield periods proportional to the square of the distance. Neither scenario matched Johannes Kepler's observational Third Law, which established that the square of the orbital period is proportional to the cube of the semi-major axis ($T^2 \propto r^3$). Furthermore, Newton argued that a material fluid dense enough to drive planets would fundamentally destabilize the system through drag, causing planets to spiral into the Sun.

Despite Newton's mathematical triumph, the physical mechanism of gravity remained elusive—an "empty name" describing a mathematical relationship rather than a physical process. It was not until the advent of General Relativity and modern field theory that the concept of the "field" acquired physical substance, possessing energy, momentum, and even "viscosity" in the form of frame-dragging. This report re-examines the Solar System's dynamics through this dual lens: analysing the kinematic data with the precision of modern astrophysics while revisiting the fluid-dynamic analogies of the "whirlpool" and "gear" to explain the persistent anomalies of planetary rotation. By treating the gravitational field and the interplanetary medium as interacting fluid systems, we can resolve the apparent contradictions in the angular momentum distribution and the retrograde motions of Venus and Uranus that so perplexed classical mechanists.

Albert Einstein's General Relativity (GR) transformed gravity from a force into a geometry, but the equations governing this geometry bear a striking resemblance to fluid dynamics.

(a). Lense-Thirring Effect (Frame Dragging): In GR, a rotating mass (like the Sun or Earth) "drags" the spacetime metric around with it. This is mathematically analogous to a viscous fluid dragging a particle. This effect, predicted by Lense and Thirring in 1918, was confirmed by

Gravity Probe B.

(b). Gravito-Magnetism: The equations of weak-field GR can be written in a form identical to Maxwell's equations, producing a "gravito-electric" field (g, gravity) and a "gravito-magnetic" field (B_g, frame dragging). The rotation of the Sun creates a dipolar gravito-magnetic field. While the effect is small (one part in a trillion), it validates the intuition that a rotating body creates a vortex in the medium of space itself.

Theoretical Framework: The Superfluid Vacuum

1. Superfluid Vacuum Theory (SVT)

Modern theoretical frameworks propose that the physical vacuum behaves as a Superfluid Bose-Einstein Condensate (BEC).[4] In SVT, "curved spacetime" (gravity) corresponds to the collective excitation modes of this condensate. If space is a superfluid, it possesses quantum viscosity and vorticity, rendering the "whirlpool" analogy a literal description of the quantum substrate.

2. Redefining Forces: Adhesion and Cohesion

In a hydrodynamic universe, the forces of Gravity and Inertia are macroscopic manifestations of microscopic fluid properties: **Cohesion** (forces between like particles) and **Adhesion** (forces between unlike particles).

- **Gravity as Adhesion (Vis Impressa, Gurutva):** Gravity is the "stickiness" or adhesive force between a planetary body and the quantum foam. It is the result of the body's interaction with the medium, maintaining its trajectory.[5]

  Etymology: Latin *gravitas* (heaviness) from root *gwerh*.

- **Inertia as Cohesion (Vis Insita):** Inertia is the cohesive pressure of the Quantum Foam pushing matter together to minimize surface area, analogous to surface tension forming a spherical water droplet.

  Etymology: iners (sluggish). Mass from Latin massa ("kneaded dough, lump, that which adheres together"). This etymology perfectly supports the Plenum theory: mass is a "lump" of quantum foam "kneaded" together. It adheres. The modern definition of mass as "quantity of matter" only appeared in the 17th century; the original meaning was fluid/plastic.

Newton defined Vis Insita (innate force) as the power of resisting, or inertia—a force "proportional to the body" that maintains its state of rest or uniform motion. Historically, this was viewed as an intrinsic property of matter, a "force of inactivity" residing within the object. However, Newton also acknowledged the ambiguity of this force, stating it "differs nothing from the inactivity of the mass, but in our manner of conceiving it". Interestingly, historical interpretations of force often utilized metaphors of "adhesion" or "viscosity." For example, fluid dynamics analogies in the 19th century described resistance in terms of "adhesive" forces

between a body and the medium.

The Vaiśeṣika Sūtras written by Maharṣi Kaṇāda resonates more with the "adhesive" interpretation than the purely intrinsic "vis insita." In Vaiśeṣika, "heaviness" (Gurutva) is a quality that causes falling, but the resistance to motion (inertia) is often linked to the interaction with the medium or the persistence of Vega (momentum). By interpreting inertia and spin as properties arising from the "adhesion" of the particle to the spacetime metric (or ZPF), we bridge the gap between ancient ontology and the Haisch-Rueda-Puthoff inertia hypothesis.

This framework bridges the gap between the Stochastic Electrodynamics (SED) inertia hypothesis of Haisch, Rueda, and Puthoff[6] and ancient ontology.

Table 1: The Unified Force Translation Matrix

Newtonian Concept	Hydrodynamic Equivalent	Mechanism in Quantum Foam	Physical Analogy
Inertia	Cohesion	Pressure gradient pushing matter toward high-density sinks.	Surface tension forming a water droplet.
Gravity	Adhesion	The "stickiness" of the medium; resistance to crossing streamlines.	Water adhering to a spinning glass; Capillary action.
Orbit	Laminar Flow	Movement along lines of equal pressure (isobars).	A leaf caught in a whirlpool eddy.

Historical Foundations: The Vaiseshika Sutras

The concept of Gravity (Gurutva - गुरुत्व) and Mass (Māhatva - माहत्व) was described with precision in the Vaiśeṣika Sūtras (वैशेषिक सूत्र) of Ṛṣi Kaṇāda (ऋषि कणाद) (c. 6th–2nd Century BCE).

Kaṇāda defines motion not as an intrinsic property, but as a resultant of conjunctions (mechanics).

(a) Sūtra (सूत्र) 1.1.26: Gurutvaprayatnasaṃyogānām utkṣepanam (गुरुत्वप्रयत्नसंयोगानामुत्क्षेपणम्) ("The motion of throwing upwards is due to the conjunction of force and gravity.")

(b) Sūtra 5.1.7: Saṃyogābhāve gurutvāt patanam (संयोगाभावे गुरुत्वात् पतनम्) ("In the absence of conjunction, falling is due to gravity.")

(c) Sūtra 5.1.18: Saṃskārābhāve gurutvāt patanam (संस्काराभावे गुरुत्वात् पतनम्) ("In the absence

of inertia/propulsive energy (Saṃskāra - संस्कार), the object falls due to gravity.")

This perfectly distinguishes between the cause of motion (Saṃskāra - संस्कार) and the adhesive force of the medium (Gurutva - गुरुत्व), anticipating the Newtonian First Law but grounding it in interaction with a medium rather than abstract inertia..

Effective Mass

The universe is filled with rotating objects and circulatory motion. Starting from particles like electron, what is cause of this motion? The concept of electron spin represents one of the most profound, yet conceptually opaque, features of modern physics. In the standard formulation of non-relativistic quantum mechanics, spin is treated as an intrinsic form of angular momentum, a fundamental and irreducible property inherent to the particle, indistinguishable in its fundamentality from mass or electric charge. This characterization, however, masks a deep ontological crisis that has persisted since the introduction of the concept by **Uhlenbeck and Goudsmit** in 1925. The difficulty arises from the attempt to reconcile the mathematical formalism of angular momentum with the physical reality of a particle that is often modelled as point-like.

By revisiting the ancient naturalistic categories of the Vaiśeṣika school of Indian philosophy, specifically the axiom that "Action is a joint result of the aggregate" (Vaiśeṣika Sūtra 1.1.26), Action as Interaction "Anyatrāntyebhyo viśeṣebhyaḥ...". "Action which is the joint result (of an aggregate of two or more substances) is not known, as it is not found in combination with them (individually)." This is a profound insight into the "Effective Mass" problem. Kaṇāda argues that "Action" (Motion) does not reside inside the object but is a "joint result" of the aggregate—an interaction between the object and the medium (the substances). Motion is an emergent property of the system, not a property of the particle..

We find a robust philosophical framework that anticipates the findings of modern Stochastic Electrodynamics (SED). The hypothesis examined herein suggests that electron spin is not an intrinsic property locked inside an isolated particle, but an emergent phenomenon—a dynamic "action" resulting from the aggregate interaction between the particle and the Zero Point Field (ZPF) of the quantum vacuum. The physical mechanism by which the ZPF induces spin is known as Zitterbewegung (ZBW), a German term meaning "trembling motion." Originally identified by Erwin Schrödinger in 1930 while analysing the Dirac equation, ZBW describes a rapid oscillation of the electron around its mean trajectory.

In a hydrodynamic universe, mass is not an intrinsic property of an object but a measure of its interaction with the medium. The planets are composed of different elements that influence the flow of quantum foam differently.

1. Effective Mass and Quantum Drag. The concept of "Effective Mass" (m^*) is widely used in solid-state physics (e.g., electron movement in a crystal lattice) and fluid dynamics. An object moving through a fluid drags a certain volume of that fluid with it, acting as if it were heavier than its static mass. In semiconductors, an electron moving through a lattice distorts the lattice, creating a cloud of phonons (vibrations) that moves with it. This composite entity is a polaron. This composite entity (electron + cloud) has a higher "effective mass" than the electron alone.

Celestial Mechanics: The Solar Gear System

1. Galactic Shear and Vortex Dynamics

The Solar System is not an isolated disc, but a vortex tube embedded within the shear flow of the Milky Way's galactic arm. The Solar System orbits the Galactic Center in a **Clockwise** direction (from the Galactic North pole), while the Sun rotates on its axis in a **Counter-Clockwise** (prograde) direction.

In a fluid model, this opposition indicates a "Rolling Ball" shear mechanism.[8] The galactic medium exerts shear stress on the boundary of the solar vortex, inducing a counter-rotation in the Sun, acting effectively as a pinion gear engaging with the galactic aether. The 60° inclination of the ecliptic relative to the galactic plane represents the "angle of attack" of the solar vortex tube to maximize stability against this shear.

The Planetary Gear Hypothesis and Venus

1 **Galactic Shear and the Solar Gear.** Current astronomical data indicates a specific kinematic relationship between the Sun and the Galaxy. Viewed from the North Galactic Pole, the Milky Way rotates **Clockwise** (retrograde). The Sun rotates on its axis **Counter-Clockwise** (prograde). This opposition confirms the **Clock Gear Mechanism**. In a mechanical gear train, a large outer ring gear turning clockwise will drive an inner gear (the Sun) counter-clockwise. The Solar System is not spinning randomly; it is being "rolled" by the shear forces of the galactic fluid flow. The Sun acts as a pinion gear engaging with the galactic aether, converting the galaxy's orbital momentum into its own rotational spin.

2 **Solar Shear and the Planetary Gear.** If the Solar System is a vortex driven by galactic shear, the planets must act as mechanical components that stabilize this flow. The most persistent anomaly in solar system dynamics—the retrograde rotation of Venus—provides the strongest evidence for a **Planetary Gear System**. The concept of the solar system as a gear train is not merely a modern fluid analogy but echoes the mechanical understanding of antiquity. The **Antikythera Mechanism** (c. 2nd Century BCE) modelled the cosmos using epicyclic gearing. The ancients modelled the heavens as a machine. The Fluid/Gear hypothesis suggests they were not modelling an abstraction, but the physical reality of the plenum mechanics—a "clockwork universe" in the most literal sense.

3 **Planetary Interiors**. The "Clock Gear" theory extends to the planetary interiors. If the Solar System is a vortex, the fluid density profile dictates orbital speeds: denser near the Sun, rarer outwards. Newton argued that a fluid vortex would result in orbital periods inconsistent with Kepler's laws. However, he assumed a uniform fluid.

- **Inner Planets:** Move through high-density quantum foam near the Sun. The "viscosity" here is high, locking them into tight, fast orbits.
- **Outer Planets:** Float in the rarer, lower-density medium. They are not driven by a rigid mechanical arm but "float" in the outer eddies of the whirlpool. Their slower motion is a result of the reduced shear force in the outer, less viscous regions of the vortex.

4 **Anomalies.** The "Gear" analogy explains the anomalies of rotation. Standard accretion theory attempts to explain this via a "massive impact" event, a hypothesis that requires statistically improbable conditions. The Gear/Vortex hypothesis offers a deterministic explanation. In any complex gear train (or concentric fluid vortex system), adjacent layers cannot rotate in the same direction without significant friction (turbulence). To maintain stability between a fast-spinning core (Sun) and a massive, slower-moving outer shell (Jupiter/Saturn), an interface layer must reverse direction.

(a) **Standard Planets (Earth/Mars):** The outer layers rotate Counter-Clockwise, while the inner core may rotate Clockwise (differential rotation), acting as a bearing.

(b) **Venus as a Single Gear:** Venus rotates **retrograde** (Clockwise). In the gear model, Venus acts as a "single gear" or **idler gear** inserted between the Sun (CCW) and Earth (CCW). Mechanical laws dictate that two CCW gears cannot mesh directly without grinding; an idler gear (CW) is required between them to transfer momentum smoothly. Venus fills this role, stabilizing the shear between the inner solar vortex and the Earth's orbit.

(c) **Vortex Interface:** Venus sits at the boundary where the high-velocity, low-viscosity flow of the inner solar vortex (driven by the Sun) meets the lower-velocity, high-mass flow of the Earth-Jupiter system. To prevent turbulent collapse, the Venusian orbital stream forms a counter-rotating eddy.

(d) **Atmospheric Super-Rotation as Gear Friction.** The physical evidence for Venus acting as a high-stress mechanical bearing is found in its atmosphere. Venus exhibits "super-rotation," where the atmosphere rotates up to 60 times faster than the solid planet itself.

Table 2: The Solar Vortex Gear Train Analysis

Component	Rotation Direction	Mechanical Function	Hydrodynamic Role
Sun (Core)	Counter-Clockwise (Prograde)	Sun Gear (Drive)	The primary vortex generator, driven by Galactic shear.
Mercury	Counter-Clockwise	Locked Bearing	Trapped in the immediate laminar boundary layer of the Sun.
Venus	Clockwise (Retrograde)	Idler Gear	The shear interface layer reversing direction to stabilize the flow between the core and the outer system.
Earth	Counter-	Planet Gear 1	The first stable "habitable"

Component	Rotation Direction	Mechanical Function	Hydrodynamic Role
	Clockwise		streamline beyond the shear turbulence.
Jupiter	Counter-Clockwise (Fast Spin)	Ring Gear / Anchor	The massive outer boundary providing the counter-pressure (effective mass) to hold the system together.

In any complex gear train or concentric fluid vortex, adjacent layers cannot rotate in the same direction without turbulence. To maintain stability between the fast-spinning solar core and the outer system, an interface layer must reverse direction.[9] Venus acts as this **Idler Gear**, sitting at the boundary where the high-velocity inner vortex meets the stable, high-mass flow of the Earth-Jupiter system. The atmospheric "super-rotation" of Venus (60 times faster than the surface) is physical evidence of this high friction/shear stress interface.[10]

5 Jupiter and Effective Mass (m*). In a plenum, an object's mass is defined by its **Effective Mass** (m*)—its ability to displace and entrain the medium. Analogous to the **polaron** in condensed matter physics (an electron dragging a cloud of phonons),[11] Jupiter acts as a "gravitational polaron."

Jupiter's immense size and rotation create a massive disturbance in the Quantum Foam, dragging a volume of the medium with it. This entrainment deepens Jupiter's gravity well beyond what baryonic mass alone would predict, allowing it to act as the "governor" or anchor of the solar clock, preventing the inner planets from spiralling into the Sun.

Re-examining Kepler's Laws in the Variable Density Plenum.

If the solar system is a vortex in a fluid medium (Quantum Foam), Kepler's laws must be derivable from fluid dynamics.

(a) **Law 1 (Ellipses) and the Solar Apex Test. Hypothesis:** If the Solar System moves through a "viscous" aether, the "headwind" should distort planetary orbits, aligning their major axes (perihelion) with the direction of travel (Solar Apex).

The Sun moves towards the constellation Hercules (approx. Longitude 270°. The longitudes of perihelion for the planets are distributed randomly 77°, 131°, 102°, 336°. The Moon's major axis rotates (processes) every 8.85 years.

Therefore, there is no static alignment. This implies the Plenum is a **Superfluid** that exerts no drag on objects moving at constant velocity (d'Alembert's paradox). The planets do not "feel" the galactic wind; they only feel the local vortex of the Sun. The ellipses may be caused by internal resonances.

(b) **Law 2 (Equal Areas): The Constant Flux Mechanism.** Kepler's 2nd Law (dA/dt = k)

states that planets speed up when closer to the Sun.

- **Drag Theory & Effective Mass:** In a variable density plenum, the density of space (ρ) increases near the massive center (Sun).
- **Mass-Flux Conservation:** A planet moving through denser space interacts with more "foam." To conserve momentum, it must adjust its speed. The "Equal Area" law may actually be a conservation of **Quantum Foam Flux**. The planet sweeps through an equal *mass* of the medium in equal time.

(c) **Law 3 (Harmonies): The Fluid Gearbox.** The law $T^2 \propto r^3$ (or $T^2/r^3 = K$) implies a specific velocity profile ($v \propto 1/\sqrt{r}$).

- **Vortex Dynamics:** A simple fluid vortex has $v \propto 1/r$ (which gives $T^2 \propto r^4$). The Solar System is faster than a simple vortex.
- **Variable Density Solution:** If the density of the space-fluid decreases with distance ($\rho \propto 1/r$), the pressure gradient alters the velocity profile to match Kepler's law.
- **Clock Gear Theory:** The planets are not randomly placed. They occupy "resonant orbits" where their waves in the medium interfere constructively (e.g., Pluto: Neptune 2:3 resonance). The Solar System is a **Quantum Hydrodynamic Gearbox**, where stable "teeth" (orbits) only exist at specific integer harmonics of the vacuum density function.

The synthesis of these concepts reveals a universe that is mechanically coherent. **Plato's Forms** exist as the invisible **Equipotential Fields** of the Plenum. **Kepler's Laws** describe the flow of a **Superfluid Vortex** with variable density, acting as a frictionless "Clock Gear" system.

Relativistic Implications: Time as Refraction

The Plenum model physicalizes Time Dilation. In General Relativity, time dilation is geometric. In the Superfluid model, it is a result of the **refractive index** of the medium.[12]

The "time" we experience is local, relative and apparent and not as an absolute linear dimension. It is a function of **fluid density** and **rotational cycles**. Just as light slows down in water (a medium of higher density), physical processes propagate slower in regions of high quantum foam density (gravity wells or rather whirlpools). The "curvature" of light near the Sun is thus a refraction event (Snell's Law analog) as the photon wavefront enters the denser fluid layer surrounding the star. At the event horizon of a black hole (e.g., Sagittarius A*), the foam density is maximal, and the refractive index approaches infinity, halting the propagation of processes (Time). The following effects may be observed.

(a) **Relativity as Hydrodynamics:** The time dilation observed near massive bodies is not a geometric curvature but a "viscous drag" on the flow of light. A few seconds near the galactic center equates to hundreds of years in the rarefied foam of the outer spiral arms. This suggests time is cyclic and rotational, inextricably linked to the movement of space energy.

(b) As the quantum foam densifies near a massive object (due to the in-flow and compression), the "speed of light" (and arguably the speed of all causal processes) decreases relative to the low-density vacuum of deep space.

(c) This mirrors the phenomenon of light slowing down when entering water or glass. The "curvature" of light near the Sun is not a geometric path-following but a refraction event as the photon wavefront enters the denser fluid layer surrounding the star.

(d) **Extreme Limit:** At the event horizon of a black hole (e.g., Sagittarius A*), the foam density is maximal, the refractive index approaches infinity, and the propagation of processes (Time) halts.

Table 3: Comparison of Time Mechanisms

Feature	General Relativity (Geometric)	Superfluid Vacuum (Hydrodynamic)
Cause of Dilation	Curvature of Spacetime Manifold	Increased Density/Refractive Index of Quantum Foam
Mechanism	Geodesic Deviation	Wave Propagation Delay
Light Bending	Following Curved Space	Refraction (Snell's Law analog)
Black Hole	Infinite Curvature Singularity	Maximum Density/Pressure Limit
Analogy	A ball rolling on a curved sheet	Light passing through a gradient glass lens

Experimental Evidence: Aether Drag Re-examined

The null result of the Michelson-Morley experiment (1887) is often cited as proof of the vacuum. However, through the lens of Stokes' **Complete Drag Hypothesis**,[13] the Earth drags its local sphere of Quantum Foam with it (Adhesion). Michelson and Morley measured the speed of light at the Earth's surface, deep within the boundary layer where the medium is stationary relative to the instrument.

Conversely, **Dayton Miller's** experiments at high altitude (Mount Wilson) consistently

detected a positive "drift," suggesting that as one moves away from the surface adhesion layer, the "slip" between the planet and the galactic medium becomes detectable.[14] Additionally, the **Sagnac Effect** proves that rotation is detectable against the background medium, supporting the fluid properties of the space.

Vedic Cosmology and the Impeller

The physics of the Plenum finds strong resonance in Vedic cosmology:

1. **Bhaga (The Mover of the Cosmos):** The scalar field distributing vacuum energy (Quantum Foam), akin to the modern concept of Dark Energy driving cosmic expansion. Bhaga governs the intergalactic medium—the expansion of space itself. As a mover Bhaga represents the scalar field that distributes the vacuum energy driving cosmic inflation. This in turn pointes out to a potential and largest black hole at cosmic center as its source.
2. **Savitur (The Impeller of the Milky Way):** Distinct from the physical sun (*Sūrya*), Savitur represents the motive force derived from the Galactic Center (Sagittarius A*), driving the orbital mechanics of the system.[15]
3. **Usha (The protector of the Planets):** The Goddess of Dawn, representing the Solar Wind and Radiation Pressure—the force that clears the "darkness" (interstellar medium) and defines the Heliosphere.[16]

Conclusion

The Solar System is not a silent mechanism in a void, but a dynamic system operating within a celestial ocean. By reinstating the Plenum (Quantum Foam), we conclude:

1. **Gravity and Inertia** are emergent properties of Adhesion and Cohesion within the superfluid medium.
2. **Gravity is a resultant force** originating from interaction of heavenly bodies with its surrounding quantum vacuum. It is not homogeneously distributed.
3. **Time is a function of local fluid density** (refractive index), uniting General Relativity with optical mechanics.
4. The **Solar System functions as a hydrodynamic gear train**, where the Sun is driven by Galactic shear, and **Venus acts as a retrograde idler gear** to stabilize the vortex.
5. These concepts represent a synthesis of modern **Superfluid Vacuum Theory** and the ancient mechanics of the **Vaiśeṣika Sutras**. The dark energy represented by Bhaga force pointes out to a potential and largest black hole at cosmic center as its source.

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